

REMARKS

Claims 1-3, 5, 6, 9, 12-14, 17-22, 24, and 25 are all the claims pending in the application.

I. Claim Rejections Under 35 U.S.C. § 112(2nd):

The Examiner rejects claims 17 and 25 under 35 U.S.C. § 112(2nd) because they recite the term “the cooling step,” which lacks sufficient antecedent basis. To address the Examiner’s concerns, Applicant amends claims 17 and 25 by altogether deleting the objectionable term.

II. Claim Rejections on Prior Art Grounds:

The Examiner rejects the claims by relying on several combinations of references.

Specifically, the Examiner rejects:

1. claims 1-3, 5, 6, and 9 under 35 U.S.C. § 103(a) as being obvious over U.S. 5,077,912 to Ogawa et al. (“Ogawa”) in view of U.S. 5,380,612 to Kojima et al. (“Kojima”) and U.S. 5,881,476 to Strobush et al. (“Strobush”);
2. claim 14 under 35 U.S.C. § 103(a) as being obvious over Ogawa in view of Kojima and Strobush, and in further view of U.S. 5,323,546 to Glover et al. (“Glover”);
3. claim 17 under 35 U.S.C. § 103(a) as being obvious over Ogawa in view of Kojima and Strobush, and in further view of U.S. 6,270,938 to Gandini et al. (“Gandini”);
4. claims 12, 13, 18-22, and 24 under 35 U.S.C. § 103(a) as being obvious over Kojima in view of U.S. 5,058,500 to Mizuno (“Mizuno”) and Glover; and
5. claim 25 under 35 U.S.C. § 103(a) as being obvious over Kojima in view of Mizuno and Glover, and in further view of Gandini.

Applicant respectfully traverses all of these rejections in view of the following remarks.

A. *Independent Claim 1:*

Independent claim 1 recites (among other things) the following two features: (1) that the second heating means *does not contact the support and the photosensitive coated layer*; and (2) that the heating condition of the second heating means is changed *while the support is being conveyed*. At least these features, in combination with the other limitations recited in claim 1, are not taught or suggested by the prior art relied upon by the rejection grounds.

The rejection grounds rely upon Ogawa to teach all of the features of the present invention, except for the second heating means defined by claim 1, and therefore look to the secondary reference of Kojima and Strobush to make up for the deficiencies of Ogawa. In so doing, the rejection grounds rely upon a modification of Ogawa in which the disclosed heating roller 9 (which is a contact heating means) is dispensed with in favor of a hot air drying apparatus (which is a non-contact heating means), as taught by Strobush. This rejection position is incorrect for several reasons.

First, the primary reference to Ogawa contains explicit teaching that would have led those skilled in the art directly away from the alleged substitution of parts. As pointed out in the April 9, 2003 Amendment, Ogawa's use of the heating roller 9 (and the direct contact feature between the heating roller 9 and the web 1) is not incidental. This is evidenced by the fact that Ogawa provides a laundry list of advantages associated with the heating roller 9. This list includes (among other things) the occurrence of little temperature distribution in the cross direction, less adverse effects such as fogging and the reduction of membrane strength, an

improved drying capacity, a shorter drying time, a reduction in size of the drying apparatus, an elevated coating speed, and a minimization of the difference in the thickness of the webs and the difference in the quality in the cross direction.¹

Ogawa even expressly indicates that the objects of the invention are achieved by “combining a hot air drying and a heating roll drying.”² Ogawa’s express objectives could not be achieved if the alleged substitution of parts were implemented. This is because the modified device would include a hot air drying followed by another hot air drying (as opposed to the disclosed heating roll drying).

Second, the rejection grounds’ reliance upon the secondary reference to Kojima is misplaced for being overly broad. According to the rejection grounds, Kojima teaches that a contact heating means (such as a heating roller) is equivalent to a non-contact heating means (such as an IR, a UV, and a hot air heater). However, the portion of Kojima cited by the rejection grounds relates exclusively to a “post exposure” heating process, i.e., a heating process that occurs after an image has been formed and developed on the printing plate. But this disclosure is simply not pertinent to the heating means that might be used prior to the image being formed and developed. In fact, the prior art even recognizes fundamental differences

¹ Ogawa, col. 2, l. 25-39.

² Ogawa, col. 1, l. 50-56.

between contact and non-contact heating means that are employed prior to image formation. For example, see the discussion above concerning Ogawa.

Third, according to the rejection grounds, those skilled in the art would have been motivated to make the alleged substitution of parts (i.e., to dispense with Ogawa's heating roller 9 in favor Strobush's hot-air drying apparatus) to prevent coating defects such as mottle. Applicant respectfully disagrees.

As shown in Fig. 5 of Strobush, the disclosed hot air drying apparatus 10 has an enclosure 17 with a first zone 18 in which a plurality of air foil plenums 31 are provided. The temperature and pressure of the gas within each air foil plenum 31 may be independently controlled, thereby providing subzones.³ Each subzone may therefore contain gas with a unique temperature and gas velocity.⁴ In this way, the heat transfer rate to the coated substrate 16 can be controlled to avoid significant mottle defects.⁵

Applicant respectfully asserts that mottle is a defect that occurs when the coating is wet. Strobush even indicates that mottle is usually caused by air movement over the coating.⁶ Strobush also explains that as a coating is dried, it will eventually become mottle-proof.⁷

³ Strobush, col. 9, l. 52-59.

⁴ Strobush, col. 10, l. 52-64.

⁵ Strobush, col. 12, l. 27-47.

⁶ Strobush, col. 1., l. 67 – col. 2, l. 5.

⁷ Strobush, col. 12, l. 48-55, and col. 13, l. 22-26.

Certainly then, defects such as mottle would not occur in a coating that is dry to the touch (i.e., a coating having a viscosity of 10^8 to 10^{10} poise).

Those skilled in the art would not have been motivated to make the alleged substitution of parts to prevent mottle defects, as alleged in the rejection grounds. This is because in the primary reference to Ogawa, the air drying apparatus 8 dries the coated web to a “set to touch” state, where the coating has a viscosity of 10^8 to 10^{10} poise.⁸ At this point of the process, which is prior to the heating roller 9, the coating is mottle-proof (as taught by Strobush). That is, by the time the web 1 reaches the heating roller 9, it is too dry to be susceptible to mottle, Benard cells, orange peel, and other coating defects that might possibly be avoided by Strobush’s air drying apparatus.

Furthermore, Applicant respectfully points out that the prior art is not pertinent to the present invention for the following three reasons. First, in Strobush, a support is heated by a non-contact heating means in each of the sub-zones. However, unlike the present invention, Strobush does not disclose the notion of employing heating conditions *that differ before and after a photosensitive coated layer is dried to a dry-to-touch state*. The Examiner’s attention is respectfully directed to the present specification (p. 5, l. 21 - p. 6, l. 4).

⁸ Ogawa, col. 2, l. 4-10.

Second, use of the heating system recited in Strobush as the second heating means in the heating system recited in Ogawa is not taught or suggested by any reference (including Ogawa). On the contrary, Ogawa specifically *recommends the use of a contact heating means*. It would have been illogical to substitute the contact heating means of Ogawa with the non-contact heating means of Strobush, given that according to Ogawa, it is desirable to use a contact heating means. There is simply no motivation or suggestion for combining the heating systems of Ogawa and Strobush, as alleged by the rejection grounds.

Third, mottle and Bernard cells may be generated *only when a coated layer has fluidity* and cannot be generated when a coated layer is in the dry-to-touch state (e.g., 10^8 - 10^{10} poise). Accordingly, those skilled in the art would not have been motivated to make the alleged substitution or parts to prevent mottle defects, as alleged in the rejection grounds.

B. *Independent Claim 12:*

Independent claim 12 recites (among other things) that the supports are *connected together*. An exemplary embodiment of this feature is discussed throughout the specification.² At least this feature, in combination with the other limitations recited in claim 12, is not taught or suggested by prior art relied upon in the rejection grounds.

² Spec., paragraph bridging p. 28-29.

The rejection grounds rely upon the Kojima reference to teach most of the features recited in claim 12. In so doing, the rejection grounds recognize the Kojima's disclosure is specific to processing a discrete support plate. Nevertheless, the rejection grounds point out that Kojima at least mentions "continuous automatic processing," which is alleged to suggest that a plurality of plates may be prepared. This rejection position is not convincing for the following reasons.

Applicant agrees with rejection grounds that Kojima's disclosure is not limited to the processing of a single discrete plate. That is, the disclosed processing could be performed on one discrete plate after the other. However, the term "continuous automatic processing" (without more pertinent disclosure) does not teach or suggest that the printing plates would be connected together. Indeed, when the relied upon term is read in context, it could be interpreted (at best) to mean that the discrete plate continues to travel (as opposed to stopping) while being heated in a post exposure process.¹⁰ The rejection grounds seem to agree with this assertion by indicating that Kojima's teachings could be applied to continuously and automatically process a plurality of "individual" supports.

Further, Applicant respectfully submits that Kojima and the present invention are from significantly different technical fields. Although Kojima relates to a process for manufacturing a planographic printing plate, the reference teaches to utilize electrophotographic techniques,

¹⁰ See Kojima, col. 10, l. 59-63.

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which are practically and conceptually different from the techniques employed in the present invention. Further, the purpose of Kojima's "heating" process is not for drying, but rather for optimizing the exposure conditions.¹¹

For these reasons, Applicant believes that claims 1 and 12 are patentable, and that claims 2, 3, 5, 6, 9, 13, 14, 17, 18-22, 24, and 25 are patentable at least by virtue of their dependencies.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

¹¹ Kojima, col. 10, l. 34-68.

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